

# Double First

All sorts of unlikely cars have been sold with four wheel drive in Britain. Remember the Panda 4x4 and the Espace Quadra? Or the Subaru Vivio and Vauxhall Cavalier 4x4s? All of them have had one thing in common: a petrol engine. Believe it or not, no-one has ever offered a four wheel drive diesel car in Britain: even Citroën chose to sell its 4x4 BX in GTi form only, and duly suffered the embarrassing flop which has been the fate of similar products from Ford and Vauxhall.

One reason four wheel drive has never had much impact in Britain's car market is that no-one has been sure what it's for. Is it the countryman's friend, standing ready to deliver intrepid doctors and vets safely through mud, snow and ice? Or is it there to tame the wild surge of horsepower from an exotic multi-valve engine, adding sophisticated traction management to the selling points of some lean, mean machine?

Given the absence of challenging weather in most of Britain, car makers like Ford and Vauxhall could perhaps be forgiven for concentrating on the high-performance aspect of all-wheel drive. But who can remember – or cares – if the current Escort Cosworth or Calibra Turbo has four wheel drive? Most buyers, it seems, would rather spend the money on high-visibility items like flashier wheels or a bigger spoiler.

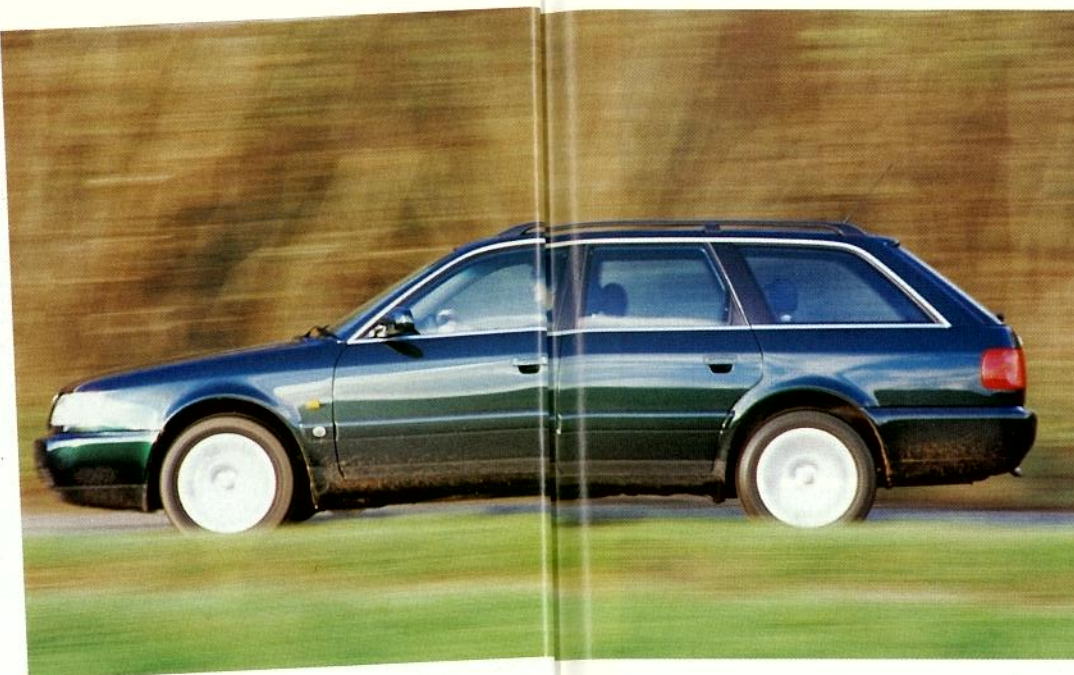
Audi, which more or less originated the idea of high-volume all-wheel-drive road cars, has been much cleverer in its marketing. Wrapping four wheel drive up in a highly appealing package and calling it quattro has proved a masterstroke, simply because the quattro name adds far more to a car than a bald 4x4 badge ever could. It conjures up images of sporting success – those rally wins are still remembered after more than a decade – coupled with style and a hefty dose of technical sophistication. Attach the quattro name and suddenly four wheel drive is all about swift, safe, stylish long-distance transport.

Which is why the quattro badge sits so well on the Audi A6 TDI. What better basis could there be for the first 4x4 diesel car than last year's Diesel Car of the Year? The A6 earned that accolade largely on the strength of the new 140bhp version of its 5-cylinder, direct injection turbodiesel, which has a strong claim to be the best all-round car diesel engine there is.

Mechanically, the quattro system adds drive to the rear wheels, via a Torsen centre differential. Drive goes back via a short prop



*Does a diesel car – even one so outstanding as the A6 TDI 140 – have much to gain from four wheel drive?*



shaft to the centre differential, by another to the rear differential, and then by drive shafts to the rear wheels, which gain full independence by virtue of wishbones in place of the front wheel drive car's torsion beam. Normally drive is biased towards the front wheels, but the torque-sensing (hence the name) differential detects any loss of grip at either end and then redistributes torque to the wheels with more grip.

There's no watering down of the quattro specification for the TDI 140 saloon and estate – the lowered sports suspension, special 16" alloy wheels with 205/55 tyres and electronic differential lock are all exactly the same as on the 2.8 litre V6 petrol quattro, while inside are sports seats and a few bits of walnut.

At £29,202, the A6 TDI quattro estate tested here costs £2,024 more than the TDI 140 SE estate. Is it worth the extra?

### Performance

The quattro estate weighs 100kg more than the standard version and the more complex transmission is bound to soak up a little power, so inevitably there's a price to be paid in lost performance. It's surprisingly small, though. We haven't tested a 140bhp estate, but compared with the saloon, the quattro's top speed is down from 128.8 to 124.4mph.

In damp, foggy conditions the quattro's improved traction made it initially quicker from a standing start than the lighter two wheel drive saloon. It shot away from the line to reach 30mph half a second earlier, in 3.2 seconds. By 60mph that advantage had been reversed, but the quattro's 0-60mph time of 10.0 seconds exactly is still only a fifth of a second behind the two wheel drive saloon. By 100mph – reached in 31.6 seconds – that gap had stretched to 3.5 seconds, but by that point the inferior aerodynamics of its estate body are also telling against the quattro.

There's a similar picture in fourth and fifth gears, with the quattro estate marginally slower than the saloon. The five cylinder engine pulls with remarkable lustiness from low

speeds, and that's reflected in both our standard measures: 6.9 seconds to get from 30 to 50mph in fourth and 8.7 seconds from 50 to 70 mph in fifth. But of course the interest doesn't stop there, because the Audi has a six-speed gearbox. Thanks to its lower profile tyres it actually has slightly lower gearing than the two wheel drive model – 31.7mph per 1,000rpm in sixth, against 33.0 – and that's reflected in the in-gear acceleration figures.

Thanks to its gearing (and also probably to calm testing conditions) the quattro actually proved quicker from 50-70mph in sixth than the 140 saloon, with a brisk time of 10.8 seconds – to illustrate just how remarkable that is, it also beats the BMW-engined Omega estate's time in fifth.

What these figures don't reveal is how pleasingly accessible the performance is. You don't have to keep snatching lower gears and racing the engine to raucous revs to make rapid progress: even on twisty country roads you can flow along in a high gear, exploiting all that torque and the quattro grip. The TDI engine delivers a seamless surge of power from 1,000 to almost 5,000rpm (or well over 6,000, if the test car's faulty rev counter were to be believed!). That makes it both a quick and effortless overtaker, and a relaxed motorway cruiser.

The Audi's DI engine starts instantly after a very brief glowplug delay, and as you would expect from its advanced specification it emits no visible smoke under any driving conditions.

### Economy

Perhaps the most remarkable achievement of this big, fast, heavy four wheel drive estate is that it uses no more fuel than some smallish turbodiesel hatchbacks. Its overall test consumption of 37.1mpg doesn't match the 41.0mpg averaged by the 140 saloon, but by any other yardstick it has to be rated as superb.

Fuel tank capacity isn't affected by the extra quattro running gear, remaining a generous 80 litres (17.6 gallons). At our test consumption that's enough for a theoretical 650 miles.

### Noise

There's a surprising amount of diesel crackle at low revs when you pull away with a cold engine, but it disappears as the engine warms and the engine is then commendably smooth and quiet. Unless, that is, you accelerate hard to high revs, when there's quite a sporting thrum from the straight-five engine.

There's no detectable extra transmission noise from the quattro bits and pieces, but although tyre roar isn't increased by the lower-profile tyres, they do thump noticeably over ridges and potholes. Wind noise isn't noticeable until you get well into three-figure speeds.

### On the road

If asked to specify what makes a good driving position, we'd come up with quite a long list. We'd ask for a comfortable, supportive seat with a wide range of adjustment; we'd want the pedals and wheel straight ahead of the seat; we'd like plenty of footroom around the pedals and somewhere to rest unoccupied feet; we'd specify a pleasantly-covered, two-way adjustable steering wheel and a clear, straightforward set of instruments and minor controls. And that – as you will by now have guessed – is exactly what you get in the A6 quattro.

The driver's seat is particularly good, offering not only height and lumbar adjustment and really effective sideways location, but also an extending front section for under-thigh support. The in-line engine allows space for long, wide footwells with comfortably-angled footrests on both sides, and with both in-out and up-down adjustment it's possible to get the leather-clad sports steering wheel in exactly the right position.

Nothing's ever perfect, of course, and as usual with Audis the quattro is let down by its radio controls. The buttons are so small and obscure as to be almost impossible to use safely on the move. Quite why Audi in the UK should stick with these Sony units is beyond us: it's no exaggeration to call them positively dangerous.

If there was one aspect of the A6 140 we



**"This big, fast, heavy four wheel drive estate uses no more fuel than some smallish turbo-diesel hatchbacks"**



	AUDI A6 TDI QUATTRO ESTATE	CITROËN XM 2.5TD VSX ESTATE	FORD SCORPIO 2.5TD ULTIMA ESTATE	RANGE ROVER 2.5DT	VAUXHALL OMEGA CD ESTATE	VOLVO 940 TD SE ESTATE
List Price £	29,202	22,825	22,295	33,350	24,100	20,800
<b>PERFORMANCE</b>						
Maximum speed (mph)	124	121	117	105	120	111
0-60mph (secs)	10.0	11.1	13.5	13.7	11.5	11.8
30-50 (4th)	6.9	6.7	9.2	7.8	7.8	9.3
50-70 (5th)	8.7	12.1	12.1	13.7	12.0	11.6
<b>ENGINE</b>						
Cubic capacity	2460	2445	2498	2497	2498	2383
bhp@rpm	140/4000	130/4300	115/4200	134/4000	130/4500	122/4800
Torque (lbs ft @rpm)	214/2250	217/2000	199/2000	199/2300	184/2200	173/2400
MPH/1000 rpm (top)	31.7	28.2	28.1	26.7	25.1	25.3
<b>ECONOMY</b>						
Overall test MPG	37.1	33.7	34.1	25.3	33.5	34.9
Govt MPG <sub>1</sub>	41.2	39.1	34.2	28.7	36.3	36.5
Fuel tank (l/gal)	80/17.6	80/17.6	70/15.4	90/19.8	75/16.5	75/16.5
Range (miles)	650	590	520	500	550	570
<b>INSTRUMENTS</b>						
Speedometer <sub>2</sub>	66.3	68.8	63.8	67.9	68.7	66.7
Odometer <sub>3</sub>	101.0	98.5	99.0	99.0	102.6	100.0
<b>INTERIOR</b> (in metres, min/max)						
Front legroom	0.87/1.08	0.91/1.10	0.89/1.06	0.90/1.05	0.82/1.03	0.86/1.01
Rear kneeroom	0.69/0.90	0.76/0.98	0.75/0.95	0.76/0.95	0.63/0.86	0.74/0.91
Combined legroom <sub>4</sub>	1.77	1.86	1.81	1.81	1.66	1.75
Interior width	1.43	1.44	1.43	1.53	1.40	1.44
<b>DIMENSIONS/WEIGHT</b> (in metres/kilogrammes)						
Length	4.80	4.96	4.83	4.71	4.82	4.85
Width	1.78	1.79	1.76	1.90	1.79	1.73
Height	1.44	1.46	1.44	1.82	1.54	1.44
Wheelbase	2.69	2.85	2.77	2.75	2.73	2.77
Kerb weight	1610	1639	1676	2115	1624	1536
<b>STEERING</b>						
Turns lock to lock	3.5	3.2	3.1	3.2	3.1	3.6
Turning circle (m)	11.5	11.7	10.6	11.9	10.3	10.0
<b>COSTS</b>						
Service hours/50,000 miles	10.3	12.7	11.2	15.7	9.8	13.6
Insurance group	16	14	15	15	13	15

KEY: 1 Govt mpg calculated as 2x urban, 1x constant 56mph, 1x constant 75mph divided by 4. 2 Actual speed at indicated 70mph. 3 Actual distance at indicated 100 miles. 4 Maximum front legroom plus minimum rear kneeroom.

**Mobil** **CLEANERBURN**  
**Diesel Plus**

Fuel quality affects performance, economy and exhaust emissions. That's why in all our road tests we use a single top-quality fuel, Mobil Cleanerburn Diesel Plus, which produces up to 3 per cent more engine power than other fuels and up to 80 per cent less black smoke.



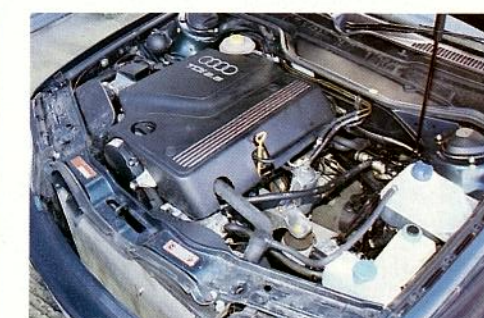
were a bit lukewarm about in our test last year it was the handling – safe, competent, but uninspiring was the general impression, with light, rather dead steering and some uneasiness in high-speed corners. After that, the quattro comes as a revelation: it not only grips wonderfully well, it's much more involving and satisfying for the driver, with meatier, more informative steering and a supple, well-damped feel to the suspension.

The extra grip shows up most clearly on something like a sharp bend coated in greasy mud, or one of those oil-coated urban roundabouts. Accelerate hard in mid-corner and the quattro simply powers around with no widening of its line, where the front wheels of the standard car would be sliding and scrabbling for grip. Except on ice or snow you can't really break traction through excess power – only by going into a corner way too fast can you get the quattro to lose grip, and even then it's easy to regain con-



▲ Sports wheel, bright dial surrounds and walnut trimmings distinguish the quattro cabin

◀ Rear cabin is spacious and comfortable; loadspace lacks height, but there's a useful under-floor compartment



**"It not only grips wonderfully well, it's much more involving and satisfying for the driver"**

trol. It's quick, it's safe and it's satisfying.

In normal use the standard ABS brakes feel good – medium weight, with no sponginess and a progressive, powerful response. There's so much grip from the big wide tyres that they don't easily reach the point of locking (and thus require the intervention of the ABS system) even under heavy braking – it takes a real simulated panic stop, or a very low-grip surface to set the pedal pulsing.

The quattro heritage doesn't mean heavy-weight, competition-style controls. Although it's got more feel, the steering remains quite light and it isn't particularly high-g geared, with 3.5 turns between surprisingly tight locks. The clutch is smooth and medium-weight, and the six-speed gearchange is light and precise. You can always find the right gear as long as you don't rush things – the spring-loading returns the lever to the 3-4 plane if you get lost. Getting the best out of the six speeds soon becomes second nature – it often makes

sense, for example, to go straight from fourth to sixth or vice versa.

Visibility is good all round, helped by very effective front wipers and washers and good headlamps. The rear window looks rather small and distant in the interior mirror, but the rear wiper keeps a good portion of it clear – though we'd rather have a positive on/off control than the usual VW multi-press column, which leaves you peering in the mirror to see if you've managed to switch the wiper off.

### Comfort

The spaciousness of the driving position doesn't come at the expense of rear passengers. It's very pleasant back there, with big windows all around and a very comfortable seat. Even with the front seats right back there's enough room behind for a six-footer to sit with knees only brushing the seat ahead, though he or she might have to watch out for the shin-bashing plastic strip at the

bottom of the seat-back net pockets.

Thanks to the raised rear roof-line, headroom is very generous, and there's plenty of width for three; the transmission tunnel doesn't make life too uncomfortable for a centre passenger (though there's only a lap-strap). The rear seat backrest is unusually tall – it extends well above shoulder level, and there are three adjustable headrests.

If the driver is exploiting all that quattro handling, rear passengers will be thankful for the comfortable centre and side arm-rests and twin grab-handles; twin air-vents should help them keep their cool, while individual reading lights allow a bit of nonchalant browsing.

Apart from that intrusive thumping over sharp bumps, ride remains good – in fact the firmer, less wallowy damping will probably suit sensitive stomachs well. One down-side of quattro motoring though is that the SE's air conditioning is rather inadequately replaced by an electric steel sunroof. The heater works



well enough, but that won't be much consolation if summer '96 turns out like the last one.

### Equipment and finish

Pleasant, tasteful, well-equipped but not exactly loaded – that's how the quattro interior seems. There's no leather (except on the

### VERDICT

The A6 TDI 140 already had a superb engine; now it has the handling to match. For any keen driver, it has to be the ultimate in diesel motoring: amongst its German rivals, there really is nothing from BMW or Mercedes to touch it either for enjoyment or efficiency.

Nor is its appeal limited to enthusiastic drivers: even drivers who thought quattro was a raunchy rock star appreciated its comfort, quietness and effortless, sure-footed feel. In fact we're left embarrassingly short of things to be hard-hittingly critical about. Thank goodness for that wretched radio...

wheel and gearlever), no air-con, no CD player, no cruise control and no electric seat adjustment. The central locking isn't remote-controlled and the front seats aren't heated. Most of those things are available on the (fairly pricey) options list, though, and quattro buyers will surely approve of getting the important bits right and letting the customer choose the gizmos.

For instance, there's an immobiliser to stop the car being stolen, twin airbags to stop you getting hurt (though the eagle-eyed will spot that the early-build test car had only one), and the bodyshell is not only one of the best around for passenger protection but also galvanized to keep it that way.

There are plenty of places to stow your bits and pieces in the front – door pockets, three centre-console trays, a medium sized drop-down glovebox and a couple of well-hidden compartments in the bottom of the dash above the driver's knees. Behind, there are nets on the seat-backs and smallish door pockets.

As a load-swallower, the A6 estate won't be giving Volvo any sleepless nights. The luggage compartment is quite long and wide, but the tailgate slopes steeply and the floor is very high (though there's a useful extra compartment under it, which thieves might miss). Only the split backrests of the rear seat fold, not the cushion, but that at least makes the operation quick and easy – especially as you don't have to remove the headrests first. Because the floor behind is so high, there's no step-up onto the folded backrests.

There's a good pull-out flexible luggage

cover, and two useful side compartments, with a warning triangle in one and a first aid kit in the other (or so the label leads you to believe – in the test car the cupboard was bare).

### In service

The quattro needs no extra servicing compared with the standard car. That means a service every 10,000 miles, adding up to 10.3 hours over the first 50,000 miles. The insurance group is also unaltered, though that still leaves it looking potentially expensive in group 16.

There's a three years/unlimited mileage mechanical and paintwork warranty, and no less than a decade's cover against through-rusting of body panels.

The bonnet is easily opened, thanks to twin gas struts and the safety catch which protrudes helpfully through the grille when you pull the release. All the routine fluid checks are easy to identify and complete, but more detailed inspection is likely to require removal of the plastic engine cover. ■



## POLLEN & POLLUTION FILTERS

Clean Fresh Air for You with Filters from . .

Pollen and Pollution  
Filters Available for  
Vehicles With  
*and* Without  
Air-Conditioning

98% Particle  
Absorbtion

Available  
for a wide range  
of vehicles



THE Vehicle  
Air-Conditioning  
Specialists

**VEHVAC LTD**

Unit 5, Charlwoods Road  
East Grinstead RH19 2HS  
Telephone

**01342 317555**

Fax

**01342 317575**

Alleviates the effect of  
Hayfever & Asthma  
caused by Pollen, Dust,  
Salts & Bacteria

Long-life  
Annual / 12,000 mile  
Replacement

Easy to fit  
Supplied complete  
with Instructions

## AIR-CONDITIONING

Fresh Air at a  
Temperature You  
Choose

Ideal Conditions to  
keep you Alert

Highly  
Efficient  
Demisting  
and  
Dehumidifying

Complete  
Air-conditioning  
Installations,  
Spares, Service  
and Repairs

Please send more information on:- (Please tick)

**POLLEN FILTERS** ☐ **AIR CONDITIONING** ☐ **BOTH** ☐

MAKE.....MODEL.....YEAR.....ENGINE SIZE.....

Mr/Mrs/Miss/Ms.....Address.....

Postcode.....Telephone.....

Please send to Vehvac Ltd, Unit 5, Charlwoods Road, East Grinstead RH19 2HS